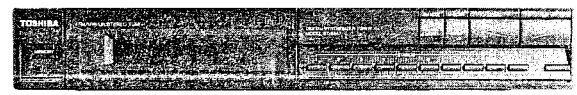
TOSHIBA

DIGITAL SYNTHESIZER STEREO TUNER

ST-3537/3547



SPECIFICATIONS

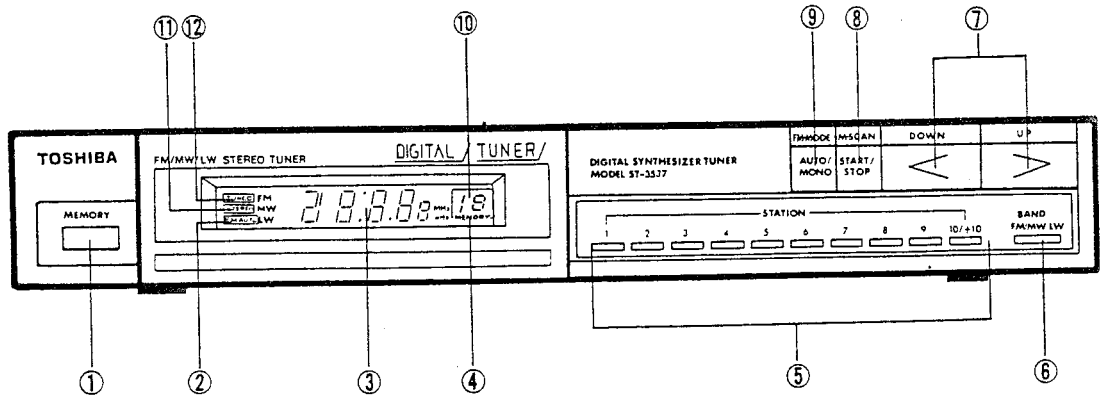
Frequency range:	FM: 87.5 – 108.0 MHz (0.05 MHz steps)
	MW: 531 – 1602 kHz (9 kHz steps)
	LW: 146 – 281 kHz (1 kHz steps)
Sensitivity (DIN):	FM: 1.3μV
	MW: 500μV/m
	LW: 900μV/m
S/N 40 kHz dev. (A Network):	FM MONO: 70 dB
	FM STEREO: 63 dB
	AM: 50 dB
FM Distortion:	MONO: 0.3%
	STEREO: 0.5%
Frequency response:	30 Hz ∿ 15 kHz $\pm\frac{1}{2}$ dB
Selectivity:	65 dB (±300 kHz)
Image rejection:	65 dB
IF rejection:	80 dB
Capture ratio:	2.0 dB
AM suppression:	60 dB
Stereo separation:	40 dB (1 kHz)
Power supply voltage:	DC 9V (ST-3547)
	DC 12V (ST-3537)
Current consumption:	280 mA (ST-3547)
	220 mA (ST-3537)
Dimensions:	340(W) x 59(H) x 250(D) mm
Weight:	1.4 kg

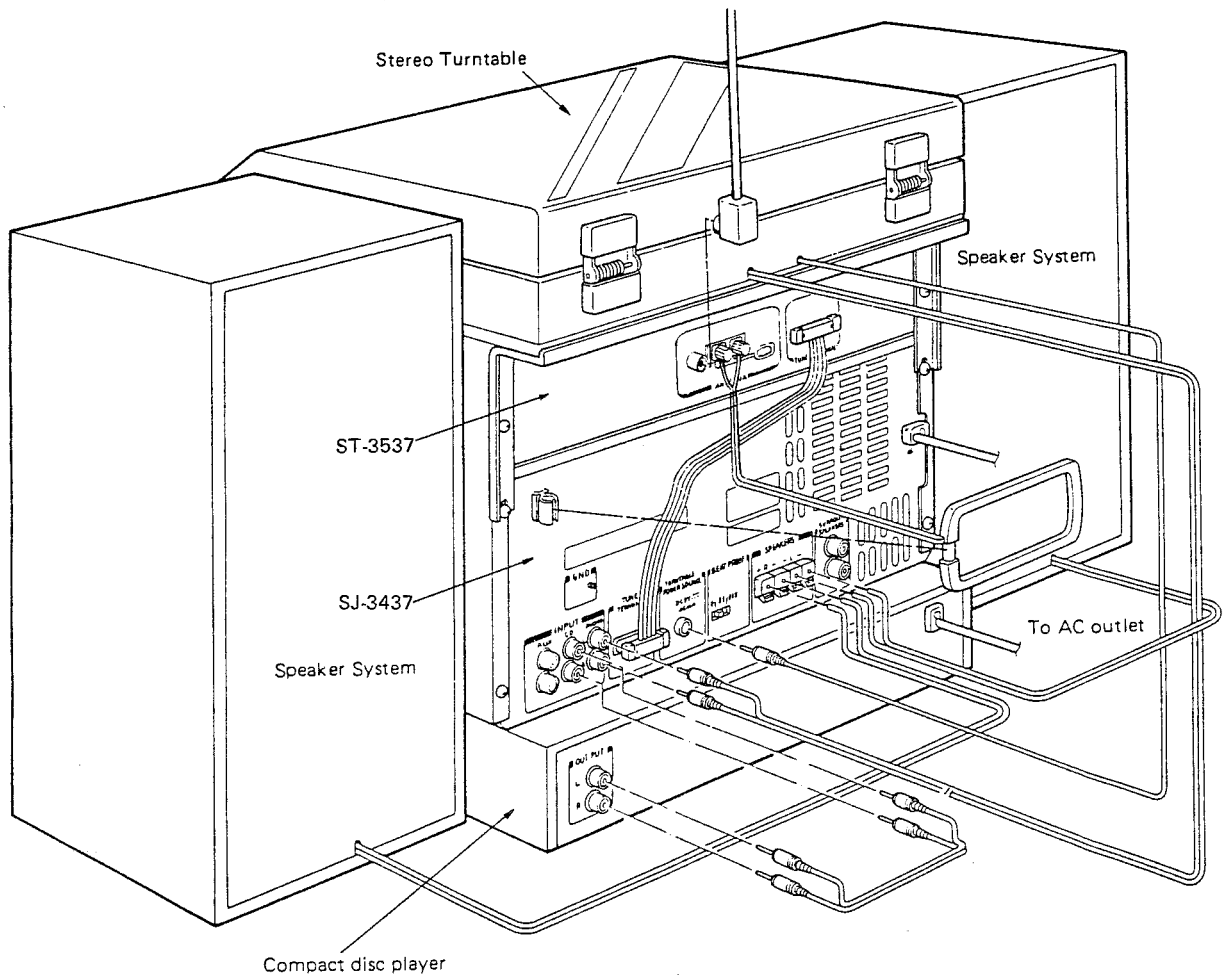
Specifications are subject to change without notice.

ST-3537-TE/ST-3547-TE, TU

PRINTED IN JAPAN 22905756 Aug., 1987 Ⓢ

OPERATING CONTROLS (ST-3537)





① **MEMORY Button**
Use this button to place frequencies in the memory for the Preset STATION channels (1 to 10/+10). Press this button ("MEMORY" appears on the display) and then one of the preset STATION buttons to place the currently tuned frequency in that channel. If no preset STATION button is pressed, the "MEMORY" display goes out after about 5 seconds. The preset STATION can easily be changed by following the above procedure once again.

② **FM AUTO Indicator**
Lights when the FM MODE Button is placed in FM AUTO mode during FM reception.

③ **Display**
Displays the band (MW, LW or FM) and the tuned-in frequency.

④ **MEMORY Indicator**
Flashes for 5 seconds when the MEMORY button is pressed.

⑤ **STATION Selector Preset Buttons**
Use these buttons to (1) preset a frequency
or (2) recall a preset frequency.

⑥ **BAND FM/MW/LW Selector Button**
Use to select MW, LW or FM reception. Each press of the button commutes the reception in order of FM, MW and LW.

⑦ **UP/DOWN Tuning Button**
Each time the UP/DOWN button is pressed, the tuned frequency increases or decreases in the following manner:
FM: 0.05 MHz steps
MW: 9 kHz steps
LW: 1 kHz steps.
If either button is held down for 0.5 second or longer, the tuner enters auto tuning mode. To exit auto tuning mode, press either button once more.

⑧ **Memory Scan Button (M-SCAN)**
Press this button to start memory scanning, and to stop the scanning, press it again.

⑨ **FM MODE Button**
When this button is pressed and the FM AUTO Indicator lights, FM reception is either in stereo or in monaural according to the station being received is broadcasting in stereo or in monaural. When the FM AUTO Indicator is not lighting, the reception is always monaural even if the broadcast is in stereo.
This button functions only when the BAND FM/MW/LW button is set for FM reception.

⑩ **STATION PRESET Indicator**
Lights when the STATION selector preset button is pressed.

⑪ **FM STEREO Indicator**
Lights when an FM stereo broadcast is being received and the FM MODE button is in the FM AUTO position.

⑫ **TUNED Indicator**
Lights when the optimum tuning point has been reached for the radio broadcast being listened to.

CAUTION
Preset STATION frequencies remain in the unit's memory for approximately 3 days if power is cut off. The memory's power supply is recharged automatically when the unit is in use. If the unit is turned off for more than 3 days, however, the frequencies stored in the memory may shift or be erased. If this happens, it will be necessary to preset the STATION frequencies once again.

Connection

■ Connections to the Amplifier-Deck

Connect the TUNER TERMINAL of the amplifier-deck to the TUNER TERMINAL on the rear panel of this unit using the connection cable included with this unit.

■ Connecting the Indoor FM Antenna

Connect the indoor FM antenna included with this unit to the FM antenna terminals on the rear panel of the unit.

■ Connecting the Outdoor FM Antenna

- If the FM STEREO indicator does not light or flashes on and off while a stereo FM broadcast is being received or if sound quality is poor, you should use an outdoor FM antenna instead of the indoor antenna.
- Terminal is provided for 75 ohm aerial only.

■ Connecting the AM Loop Antenna

- An AM loop antenna (included with this unit) is attached to the rear panel of the amplifier-deck. Connect the wires from this antenna to the AM antenna terminals on the rear panel of this unit and then set the antenna to the angle with the best reception.
- If reception is still not satisfactory, remove the loop antenna from the holder on the rear panel of the amplifier-deck and then set the antenna to the angle in which reception is best.

■ Locating the Unit

In order to obtain optimum performance from this unit, be sure to observe the following precautions when selecting its location.

- Place the unit on a flat surface that is not subject to vibrations.
- Avoid locations that are exposed to direct sunlight, heating appliances and other heat sources.
- Avoid dusty locations.
- Avoid high humidity and places where ventilation is poor.
- Do not expose the unit to extremely low temperatures.

DISASSEMBLY INSTRUCTIONS

TOP COVER REMOVAL

1. Remove three screws (A) , top cover back panel side lift up and top cover will be removed.

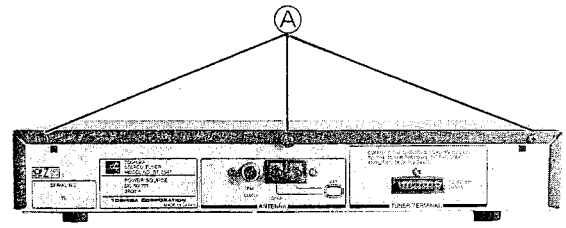


Figure 1

FRONT PANEL REMOVAL

1. Remove top cover.
2. Remove one plastic rivet (B) .
3. Unhook two claws (C) and front panel will be removed.

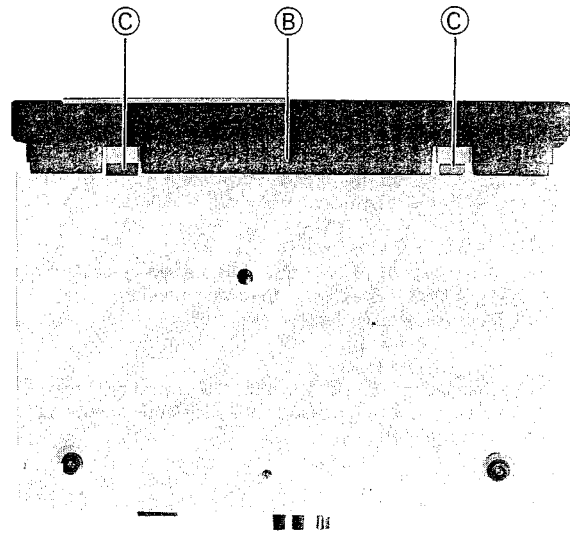


Figure 2

ADJUSTMENTS

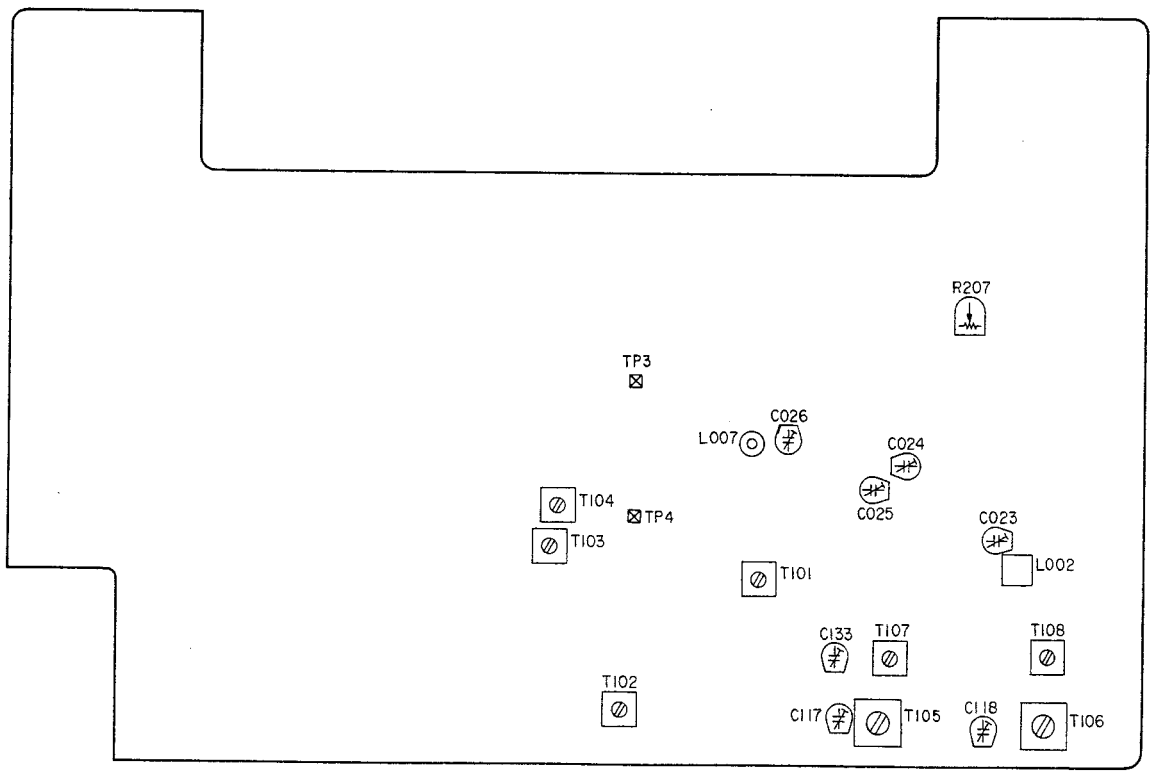


Figure 3

AM ADJUSTMENTS

Test equipments/Tools required

1. Signal Generator (with frequency counter)
2. Sweep Generator
3. D.C. Voltmeter
4. Oscilloscope
5. Adjustment Screwdriver
6. A.C. Voltmeter

Remarks: Set function switch to AM. Leave AM loop antenna connected.

AM IF RESPONSE ADJUSTMENT

Connect Sweep Generator to AM loop Antenna.

Step	Item	Input Circuit Setup	Output Circuit Setup	Tuner Setting	Adj. Point	Adjustment
1	IF Adjustment	Connect IF sweep output terminal to ANT terminal.	Connect IF sweep input terminal to LA1266 ⑮ pin	fmin band end	T102	Adjust for max. amplitude with symmetrical response at 450 kHz.

MW (LW) VT ADJUSTMENT [( ) are LW Adjustment]

Step	Item	Display Frequency	Adjustment	
			Adjustment Point	D.C. Voltmeter
2	MW (LW) VT	531 kHz (146 kHz)	T108 (T107)	0.8V ±0.1V
3		1602 kHz (281 kHz)	(C133)	6.0V ±0.1V
4	Repeat above steps until no further improvement is noticed.			

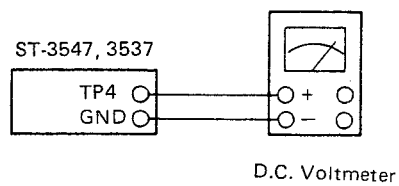


Figure 4

MW (LW) TRACKING ADJUSTMENT [( ) are LW Adjustment]

Connect Signal Generator (S.G.) to AM Antenna Terminal, and A.C. Voltmeter to OUTPUT Terminal. (Figure 5)

Step	Item	Input Setting	Display Frequency	Adjustment	
				Adjustment Point	A.C. Voltmeter
5	Tracking	603 kHz (160 kHz) 400 Hz 30% mod.	603 kHz (160 kHz)	T106 (T105)	Maximum amplitude and symmetry of the oscilloscope display.
6		1404 kHz (260 kHz) 400 Hz 30% mod.	1404 kHz (260 kHz)	C118 (C117)	Maximum amplitude and symmetry of the oscilloscope display.
7	Repeat above steps until no further improvement is noticed.				

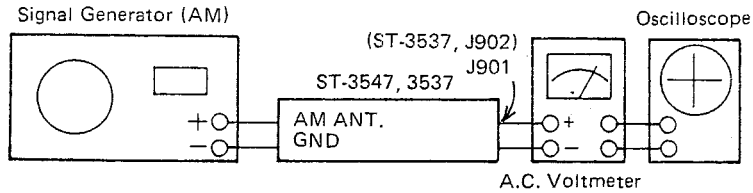


Figure 5

FM ADJUSTMENTS

Test equipments/Tools required

1. Signal Generator
2. Stereo Modulator
3. D.C. Voltmeter
4. Distortion Meter
5. Oscilloscope
6. Frequency Counter
7. Adjustment Screwdriver
8. A.C. Voltmeter

Remarks: Set function switch to FM.

FM IF RESPONSE ADJUSTMENT (Figure 7)

Step	Item	Input Circuit Setup	Output Circuit Setup	Tuner Setting	Adj. Point	Adjustment
	Unless otherwise specified set switches as follows: **FM Function: FM** **Adjust generator frequency to a center of the FM bnad where no FM broadcast exists.**					
1	IF Adjust	Connect FM IF sweep output terminal to C009.	Connect TP-3 IF-OUT terminal to IF sweep input terminal.	fmin band end	T101 T103	Adjust for straight and symmetrical S-curve with max. amplitude.

FM VT ADJUSTMENT

Connect DC Voltmeter across TP4 (FM VT) and GND. (Figure 6)

Step	Item	Display Frequency	Adjustment	
			Adjustment Point	D.C. Voltmeter
2	FM VT	87.5 MHz	L007	3.3V ±0.1V
3		108.0 MHz	C026	7.0V ±0.1V
4	Repeat above steps until no further improvement is noticed.			

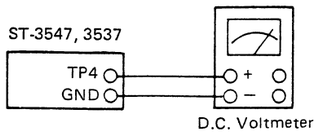


Figure 6

FM TRACKING ADJUSTMENT

Step	Item	Input Circuit Setup	Output Circuit Setup	Tuner Setting	Adj. Point	Adjustment
5	Tracking (1)	90 MHz, 1 kHz ±40 kHz dev.		90.0 MHz MONO	L002	Adjust for max. output and best waveform.
6	Tracking (2)	106 MHz, 1 kHz ±40 kHz dev.		106 MHz MONO	C023 C024 C025	Same as above.

FM DISCRIMINATOR ADJUSTMENT

Step	Item	Input Setting	Display Frequency	Adjustment	
				Adjustment Point	Distortion Meter
7	Discriminator	98.0 MHz 1 kHz ±40 kHz dev. 60 dB	MONO 98.0 MHz	T104	Minimum Distortion

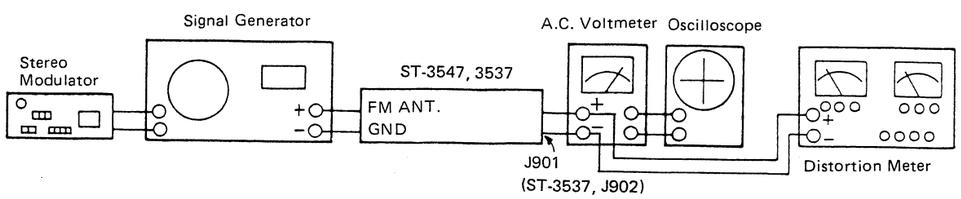


Figure 7

STEREO SEPARATION ADJUSTMENT

Connect Voltmeter to L ch (R ch) OUTPUT terminal, setting stereo modulator switch to L ch (R ch).

Step	Item	Input Setting	Display Frequency	Adjustment	
				Adjustment Point	A.C. Voltmeter
8	Separation	98.0 MHz 1 kHz, ±40 kHz dev. Pilot Signal: 6 kHz 60 dB	98.0 MHz	R207	Minimum Crosstalk

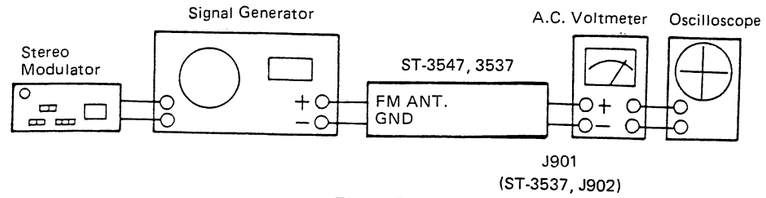
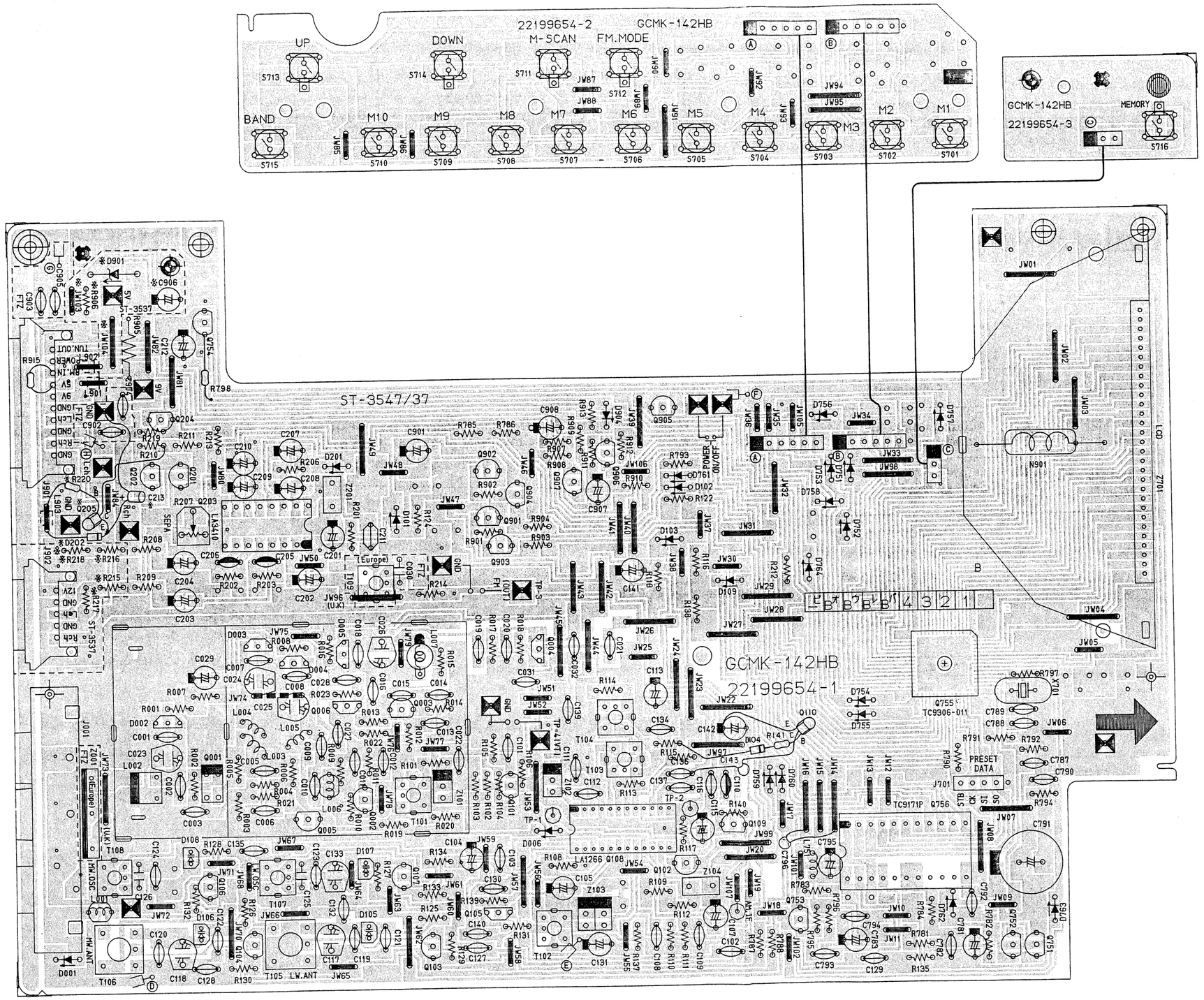


Figure 8

CAUTION:
When realigning the FM Receiving Frequency, the highest end of the frequency range should not be more than 108 MHz and the lowest end of the frequency range should not be less than 87.5 MHz, in order to comply with FTZ regulations in West Germany.

ELECTRICAL PARTS LOCATIONS



* :ST-3537 Only

Q001

D	7.47V
S	0V
G1	0V
G2	2.21V

Q002

E	0.86V
C	8.88V
B	1.55V

Q003

E	3.2V
C	8.68V
B	3.85V

Q004

D	0.86V
G	0V
S	5.03V

Q005

	Tune IN	Tune OFF
E	0V	0V
C	0.66V	2.21V
B	0.54V	0V

Q102

	Tune IN	Tune OFF
E	0.2V	3.6V
C	0V	0V
B	0V	5.93V

Q101

E	0.56V
C	8.5V
B	1.25V

Q105

	AM
D	8.16V
G	0V
S	0.4V

Q103

	LW
E	0V
C	0V
B	0.58V

Q106

	MW
E	3.67V
C	3.67V
B	4.32V

Q104

	MW
E	0V
C	0V
B	0.58V

Q107

	LW
E	3.67V
C	3.67V
B	4.32V

Q108

	FM	AM
1	2.46V	1.04V
2	2.46V	1.04V
3	2.46V	1.04V
4	0V	0V
5	9.0V	9.0V
6	9.0V	9.0V
7	9.0V	9.0V
8	5.9V	5.9V
9	3.95V	3.78V
10	2.41V	2.7V
11	2.74V	2.78V
12	3.11V	3.11V
13	0V	0V
14	1.32V	1.30V
15	1.54V	1.58V
16	0V	0V
17	0V	0V
18	2.46V	1.06V
19	1.54V	1.54V
20	0V	8.95V
21	3.94V	3.65V
22	3.94V	3.66V
23	3.4V	3.65V
24	2.78V	2.26V

Tune IN 0 (V)

Q109

	FM	MW
E	1.55V	1.6V
C	0V	1.6V
B	0V	2.24V

Q110

E	0V
C	0V
B	0.6V

B: TUNED LED ON: 0V

Q201, 202

	Normal	Auto-Tuning	STEREO Muting
E	0V	0V	0V
C	0V	0V	0V
B	0V	3.18V	2.93V

Q204

	Normal	Auto-Tuning	STEREO Muting
E	0V	3.31V	3.31V
C	0V	0V	0V
B	0V	2.66V	2.66V

Q205

	Normal	Auto-Tuning	STEREO Muting
E	11.1V	11.85V	11.85V
C	0V	3.77V	3.78V
B	11.26V	12.0V	12.0V

Q203

	FM	AM
1	7.4V	7.5V
2	3.06V	3.06V
3	3.07V	3.07V
4	3.0V	3.0V
5	3.05V	3.05V
6	3.05V	3.05V
7	3.0V	3.0V
8	0V	0V
9	9.0V	9.0V
10	2.25V	2.23V
11	3.68V	3.98V
12	3.06V	3.06V
13	3.0V	3.33V
14	2.95V	2.97V
15	3.26V	3.5V
16	3.23V	2.25V

Q751

		fmin	fmax
E	0V		
C	FM	3.3V	7.0V
	MW	0.8V	7.0V
	LW	0.8V	6.0V
B	0.6V		

Q752

		fmin	fmax
E	0.6V		
C	FM	3.3V	7.0V
	MW	0.8V	7.0V
	LW	0.8V	6.0V
B	1.1V		

Q753

E	0V
C	FM 3.07V
	AM 3.25V
B	0.7V

Q754

E	0V
C	0V
B	0.6V

B: Pulse is output when keys related to TUNER are Pushed.

Q756

	FM	AM
1	0V	0V
2	2.22V	2.22V
3	0V	0V
4	0V	0V
5	0V	0V
6	0V	0V
7	5.02V	5.02V
8	2.37V	2.37V
9	4.48V	4.48V
10	5.0V	5.0V
11	0V	0V
12	0V	0V
13	0V	0V
14	0V	0V
15	0V	0V
16	1.0V	1.0V
17	1.0V	1.0V
18	0V	0V
19	2.28V	2.46V
20	0V	0V
21	2.34V	3.0V
22	5.01V	5.45V

Q901

	FM	AM
E	9.0V	9.0V
C	8.8V	0V
B	8.28V	8.44V

Q902

	FM	AM
E	9.0V	9.0V
C	0V	8.96V
B	8.44V	8.33V

Q903

	FM	AM
E	0V	0V
C	0V	8.44V
B	0.6V	0V

Q904

	FM	AM
E	0V	0V
C	8.44V	0V
B	0V	0.6V

Q905

E	1.0V
C	3.78V
B	3.5V

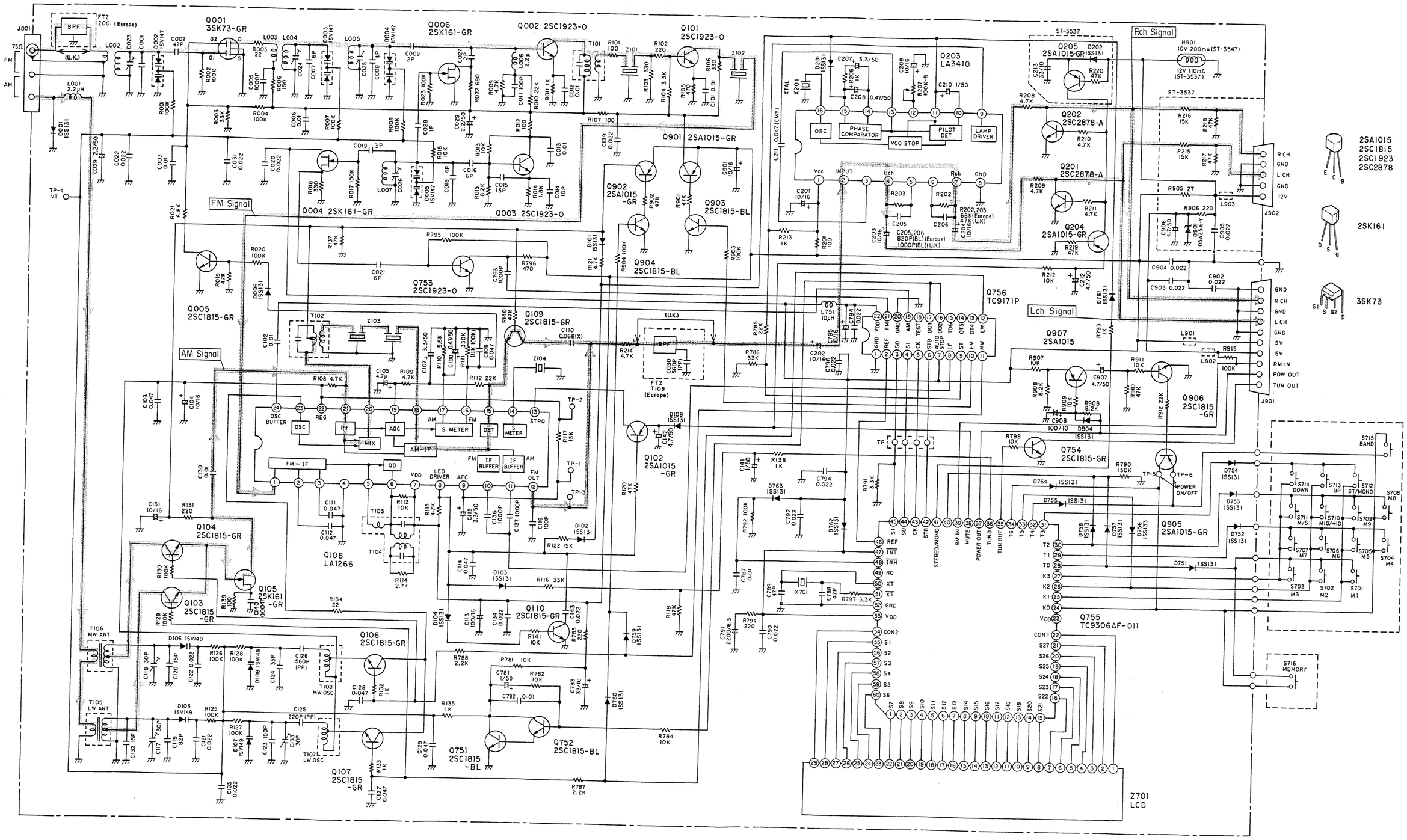
Q906

E	0V
C	3.5V
B	0V

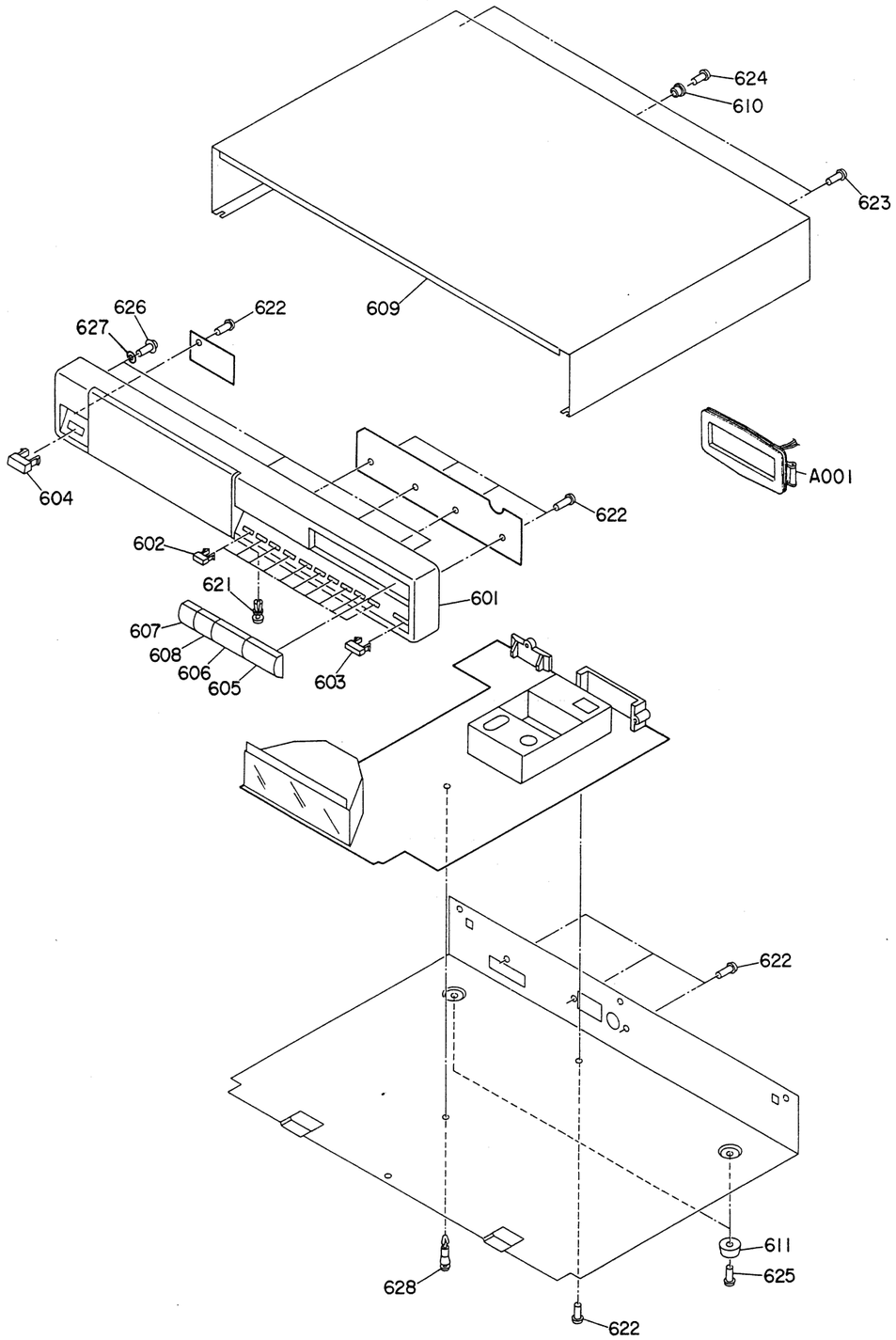
Q906

E	4.06V
C	0V
B	4.8V

SCHEMATIC DIAGRAM



CABINET EXPLODED VIEW



NOTE: Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CABINET PARTS LIST

Location No.	Part No.	Description
601	20836797	PANEL ASSY, FRONT ST-3547
601	20836816	PANEL ASSY, FRONT ST-3537
602	20872290	KNOB STATION
603	20872291	KNOB BAND
604	20872730	KNOB POWER
605	20872744	KNOB UP
606	20872745	KNOB DOWN
607	20872746	KNOB MODE
608	20872747	KNOB M-SCAN
609	22882653	TOP COVER
610	25875005	HOLDER, PLAYER
611	22874027	FOOT, RUBBER
621	22705020	PLASTIC RIVET, 3.0X4.5MM
622	22707842	SCREW, 3.0X8MM, Z, 2DTBID
623	22707885	SCREW, 3.0X8MM, B, 2DTBID
624	22708033	SCREW, 3.0X10MM, B, 2DTBID
625	22708827	SCREW, 2.6X8MM, Z, 2DTPANW
626	22708048	SCREW, 3.0X10MM, Z, TPAN

PARTS LIST

ABBREVIATIONS

1. CAPACITOR: CD = Ceramic Disk, PF = Plastic Film, BL = Barrier Layer, EL = Electrolytic, MY = Mylar, PP = Polypropylene, PS = Polystyrene, TT = Tantalum, PE = Polyethylene
   MFD = Microfarad, PF = Picofarad, V = Voltage, NP = Non Polarity
2. RESISTOR: CF = Carbon Film, CC = Carbon Composition, OMF = Oxide Metal Film, MF = Metal Film
   K = Kilo (1000), M = Mega (1000000)
3. TOLERANCE

Symbol	G	J	K	M	N	Z	P
%	±2	±5	±10	±20	±30	−20+80	0+100

Symbol	C	D
pF	±0.25	±0.5

Location No.	Part No.	Description

IC/TRANSISTORS

Q001	A6053140	TRANSISTOR, 3SK73-GR, FET
Q002	A6319020	TRANSISTOR, 2SC1923-O
Q003	A6319020	TRANSISTOR, 2SC1923-O
Q004	A6042640	TRANSISTOR, 2SK161-GR, FET
Q005	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q006	A6042640	TRANSISTOR, 2SK161-GR, FET
Q101	A6319020	TRANSISTOR, 2SC1923-O
Q102	A6534060	TRANSISTOR, 2SA1015-GR
Q103	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q104	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q105	A6042640	TRANSISTOR, 2SK161-GR, FET
Q106	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q107	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q108	22128034	IC, LA1266
Q109	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q110	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q201	A6342200	TRANSISTOR, 2SC2878-A
Q202	A6342200	TRANSISTOR, 2SC2878-A
Q203	22128035	IC, LA3410
Q204	A6534060	TRANSISTOR, 2SA1015-GR
Q205	A6534060	TRANSISTOR, 2SA1015-GR ST-3537
Q751	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q752	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q753	A6319020	TRANSISTOR, 2SC1923-O
Q754	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q755	22128324	IC, TC9306F-011-BS
Q756	B0411710	IC, TC9171P
Q901	A6534060	TRANSISTOR, 2SA1015-GR
Q902	A6534060	TRANSISTOR, 2SA1015-GR
Q903	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q904	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q905	A6534060	TRANSISTOR, 2SA1015-GR
Q906	A6317460	TRANSISTOR, 2SC1815NEW-GR
Q907	A6534060	TRANSISTOR, 2SA1015-GR

DIODES

D001	22119223	DIODE, 1SS131
D002	22119245	DIODE, 1SV147, PAIR
D003	22119245	DIODE, 1SV147, PAIR
D004	22119245	DIODE, 1SV147, PAIR
D005	22119245	DIODE, 1SV147, PAIR
D006	22119223	DIODE, 1SS131
D101	22119223	DIODE, 1SS131
D102	22119223	DIODE, 1SS131
D103	22119223	DIODE, 1SS131
D105	22119207	DIODE, 1SV149(PAIR)
D106	22119207	DIODE, 1SV149(PAIR)
D107	22119207	DIODE, 1SV149(PAIR)
D108	22119207	DIODE, 1SV149(PAIR)
D109	22119223	DIODE, 1SS131
D201	22119223	DIODE, 1SS131
D202	22119223	DIODE, 1SS131 ST-3537
D751	22119223	DIODE, 1SS131
D752	22119223	DIODE, 1SS131
D753	22119223	DIODE, 1SS131
D754	22119223	DIODE, 1SS131
D755	22119223	DIODE, 1SS131
D756	22119223	DIODE, 1SS131
D757	22119223	DIODE, 1SS131
D758	22119223	DIODE, 1SS131
D759	22119223	DIODE, 1SS131
D760	22119223	DIODE, 1SS131
D761	22119223	DIODE, 1SS131
D762	22119223	DIODE, 1SS131
D763	22119223	DIODE, 1SS131
D764	22119223	DIODE, 1SS131
D901	A7112400	DIODE, 05AZ5.6-Y, ZENER ST-3537
D904	22119223	DIODE, 1SS131

ELECTRICAL PARTS

J001	22162942	JACK
J901	22186141	CONNECTOR, 10P ST-3547
J902	22186009	SOCKET, 5P, CONTROL ST-3537
L001	22291330	CHOKE COIL, 2.2UH
L002	22294812	COIL RF ANTENNA
L003	22294752	COIL FM ANTENNA
L004	22294750	COIL, OSCILLATOR
L005	22294756	COIL, FM ANTENNA
L006	22291330	CHOKE COIL, 2.2UH
L007	22294813	COIL, OSCILLATOR
L751	22291189	CHOKE COIL, 10UH
A001	22243110	COIL, LOOP ANTENNA

Location No.	Part No.	Description
		DIODES
N901	22113623	LAMP, 10V, 200MA (ST-3547)
N901	22113627	LAMP, 12V, 110MA ST-3537
S701	22196961	KEY SWITCH M1
S702	22196961	KEY SWITCH M2
S703	22196961	KEY SWITCH M3
S704	22196961	KEY SWITCH M4
S705	22196961	KEY SWITCH M5
S706	22196961	KEY SWITCH M6
S707	22196961	KEY SWITCH M7
S708	22196961	KEY SWITCH M8
S709	22196961	KEY SWITCH M9
S710	22196961	KEY SWITCH M10/+10
S711	22196901	KEY SWITCH M/S
S712	22196901	KEY SWITCH ST/MONO
S713	22196901	KEY SWITCH UP
S714	22196901	KEY SWITCH DOWN
S715	22196961	KEY SWITCH BAND
S716	22196901	KEY SWITCH MEMORY
T101	22265821	IF TRANSFORMER, FM
T102	22266412	IF TRANSFORMER, AM
T103	22267468	IF TRANSFORMER FM-T1
T104	22267469	IF TRANSFORMER FM-T1
T105	22243134	COIL, ANTENNA LW
T106	22243133	COIL, ANTENNA MW
T107	22245504	COIL, OSCILLATOR LW
T108	22245503	COIL, OSCILLATOR MW
T109	22153433	FILTER, LOW-PASS, FTZ EUROPE
X701	22153398	OSCILLATOR, CRYSTAL, 7.2MHZ
Z001	22153276	FILTER, BAND PASS, FTZ EUROPE
Z101	22153124	FILTER, CERAMIC, 10.7MS
Z102	22153124	FILTER, CERAMIC, 10.7MS
Z103	22153481	FILTER, CERAMIC
Z104	22153471	OSCILLATOR, CERAMIC, 450KHZ
Z201	22153476	OSCILLATOR, CERAMIC
Z701	22104683	DISPLAY, LIQUID CRYSTAL
		CAPACITORS
C002	20311470	CD, 47PF, 50V, J
C003	20341103	CD, 0.01MFD, 50V, Z
C005	20342102	CD, 1000PF, 50V, M
C006	20341103	CD, 0.01MFD, 50V, Z
C007	20311609	CD, 6PF, 50V, J
C008	20311409	CD, 4PF, 50V, D
C009	20311209	CD, 2PF, 50V, D
C011	20311101	CD, 100PF, 50V, J
C012	20341103	CD, 0.01MFD, 50V, Z
C013	20341103	CD, 0.01MFD, 50V, Z
C014	20311100	CD, 10PF, 50V, D
C015	20311150	CD, 15PF, 50V, J
C016	20311609	CD, 6PF, 50V, J
C018	20311409	CD, 4PF, 50V, D
C019	20311309	CD, 3PF, 50V, D
C020	20341223	CD, 0.022MFD, 50V, Z
C021	20311609	CD, 6PF, 50V, J
C022	20341223	CD, 0.022MFD, 50V, Z
C023	22309265	TRIMMER, 10PF
C024	22309265	TRIMMER, 10PF
C025	22309265	TRIMMER, 10PF
C026	22309265	TRIMMER, 10PF
C027	20311209	CD, 2PF, 50V, D
C029	20418229	EL, 2.2MFD, 50V
C030	20381561	PP, 560PF, 100V, J
C031	20341223	CD, 0.022MFD, 50V, Z
C032	20341223	CD, 0.022MFD, 50V, Z
C089	20311209	CD, 2PF, 50V, D
C101	20341103	CD, 0.01MFD, 50V, Z
C102	20341103	CD, 0.01MFD, 50V, Z
C103	20341473	CD, 0.047MFD, 50V, Z
C104	20417100	EL, 10MFD, 35V
C105	20418479	EL, 4.7MFD, 50V
C107	20418339	EL, 3.3MFD, 50V
C108	20341473	CD, 0.047MFD, 50V, Z
C109	20341473	CD, 0.047MFD, 50V, Z
C110	20319683	BL, 0.068MFD, 25V, M
C111	20341473	CD, 0.047MFD, 50V, Z
C112	20341473	CD, 0.047MFD, 50V, Z
C113	20415101	EL, 100MFD, 16V
C114	20341473	CD, 0.047MFD, 50V, Z
C115	20418339	EL, 3.3MFD, 50V
C116	20311101	CD, 100PF, 50V, J

Location No.	Part No.	Description
C117	22309268	TRIMMER, 30PF
C118	22309268	TRIMMER, 30PF
C119	20311820	CD, 82PF, 50V, J
C121	20341223	CD, 0.022MFD, 50V, Z
C122	20341223	CD, 0.022MFD, 50V, Z
C123	20343151	CD, 150PF, 50V, K
C124	20311330	CD, 33PF, 50V, J
C125	20381221	PP, 220PF, 100V, J
C126	20381561	PP, 560PF, 100V, J
C127	20341473	CD, 0.047MFD, 50V, Z
C128	20341473	CD, 0.047MFD, 50V, Z
C129	20341473	CD, 0.047MFD, 50V, Z
C130	20341103	CD, 0.01MFD, 50V, Z
C131	20417100	EL, 10MFD, 35V
C133	22309268	TRIMMER, 30PF
C134	20341223	CD, 0.022MFD, 50V, Z
C135	20341473	CD, 0.047MFD, 50V, Z
C136	20342102	CD, 1000PF, 50V, M
C137	20342102	CD, 1000PF, 50V, M
C139	20341223	CD, 0.022MFD, 50V, Z
C140	20318472	BL, 4700PF, 25V, K
C141	20418109	EL, 1MFD, 50V
C142	20418479	EL, 4.7MFD, 50V
C143	20341223	CD, 0.022MFD, 50V, Z
C201	20417100	EL, 10MFD, 35V
C202	20417100	EL, 10MFD, 35V
C203	20417100	EL, 10MFD, 35V
C204	20417100	EL, 10MFD, 35V
C205	20318102	BL, 1000PF, 25V, K U.K
C205	20318821	BL, 820PF, 25V, K EUROPE
C206	20318102	BL, 1000PF, 25V, K U.K
C206	20318821	BL, 820PF, 25V, K EUROPE
C207	20418339	EL, 3.3MFD, 50V
C208	20418478	EL, 0.47MFD, 50V
C209	20417100	EL, 10MFD, 35V
C210	20418109	EL, 1MFD, 50V
C211	20371473	MY, 0.047MFD, 50V, J
C212	20418479	EL, 4.7MFD, 50V
C213	20414330	EL, 33MFD, 10V ST-3537
C781	20418109	EL, 1MFD, 50V
C782	20341103	CD, 0.01MFD, 50V, Z
C783	20415330	EL, 33MFD, 16V
C787	20341103	CD, 0.01MFD, 50V, Z
C788	20311470	CD, 47PF, 50V, J
C789	20311470	CD, 47PF, 50V, J
C790	20341223	CD, 0.022MFD, 50V, Z
C791	20414222	EL, 2200MFD, 10V
C792	20341223	CD, 0.022MFD, 50V, Z
C793	20342102	CD, 1000PF, 50V, M
C794	20341223	CD, 0.022MFD, 50V, Z
C795	20415100	EL, 10MFD, 16V
C796	20341223	CD, 0.022MFD, 50V, Z
C901	20417100	EL, 10MFD, 35V
C902	20342223	CD, 0.022MFD, 50V, M ST-3547
C903	20342223	CD, 0.022MFD, 50V, M ST-3547
C904	20342223	CD, 0.022MFD, 50V, M ST-3547
C905	20342223	CD, 0.022MFD, 50V, M ST-3537
C906	20418479	EL, 4.7MFD, 50V ST-3537
C907	20418479	EL, 4.7MFD, 50V
C908	20415101	EL, 100MFD, 16V

RESISTORS

R001	20512104	CF, 100K OHM, 1/6W, J
R002	20512104	CF, 100K OHM, 1/6W, J
R003	20512333	CF, 33K OHM, 1/6W, J
R004	20512104	CF, 100K OHM, 1/6W, J
R005	20512220	CF, 22 OHM, 1/6W, J
R006	20512151	CF, 150 OHM, 1/6W, J
R007	20512104	CF, 100K OHM, 1/6W, J
R008	20512104	CF, 100K OHM, 1/6W, J
R009	20512472	CF, 4.7K OHM, 1/6W, J
R010	20512223	CF, 22K OHM, 1/6W, J
R011	20512102	CF, 1K OHM, 1/6W, J
R012	20512101	CF, 100 OHM, 1/6W, J
R013	20512103	CF, 10K OHM, 1/6W, J
R014	20512222	CF, 2.2K OHM, 1/6W, J
R015	20512822	CF, 8.2K OHM, 1/6W, J
R016	20512103	CF, 10K OHM, 1/6W, J
R017	20512104	CF, 100K OHM, 1/6W, J
R018	20512331	CF, 330 OHM, 1/6W, J
R019	20512473	CF, 47K OHM, 1/6W, J
R020	20512104	CF, 100K OHM, 1/6W, J
R021	20512682	CF, 6.8K OHM, 1/6W, J
R022	20512681	CF, 680 OHM, 1/6W, J
R023	20512104	CF, 100K OHM, 1/6W, J
R101	20512101	CF, 100 OHM, 1/6W, J
R102	20512221	CF, 220 OHM, 1/6W, J
R103	20512331	CF, 330 OHM, 1/6W, J
R104	20512332	CF, 3.3K OHM, 1/6W, J
R105	20512471	CF, 470 OHM, 1/6W, J
R106	20512331	CF, 330 OHM, 1/6W, J
R108	20512472	CF, 4.7K OHM, 1/6W, J
R109	20512472	CF, 4.7K OHM, 1/6W, J
R110	20512562	CF, 5.6K OHM, 1/6W, J
R111	20512104	CF, 100K OHM, 1/6W, J U.K
R111	20512334	CF, 330K OHM, 1/6W, J EUROPE

Location No.	Part No.	Description
R112	20512223	CF, 22K OHM, 1/6W, J
R113	20512103	CF, 10K OHM, 1/6W, J
R115	20512472	CF, 4.7K OHM, 1/6W, J
R116	20512333	CF, 33K OHM, 1/6W, J
R117	20512473	CF, 47K OHM, 1/6W, J
R118	20512473	CF, 47K OHM, 1/6W, J
R120	20512473	CF, 47K OHM, 1/6W, J
R122	20512153	CF, 15K OHM, 1/6W, J
R124	20512473	CF, 47K OHM, 1/6W, J
R125	20512104	CF, 100K OHM, 1/6W, J
R126	20512104	CF, 100K OHM, 1/6W, J
R127	20512104	CF, 100K OHM, 1/6W, J
R128	20512104	CF, 100K OHM, 1/6W, J
R129	20512104	CF, 100K OHM, 1/6W, J
R130	20512104	CF, 100K OHM, 1/6W, J
R131	20512221	CF, 220 OHM, 1/6W, J
R132	20512102	CF, 1K OHM, 1/6W, J
R133	20512102	CF, 1K OHM, 1/6W, J
R134	20512220	CF, 22 OHM, 1/6W, J
R135	20512102	CF, 1K OHM, 1/6W, J
R138	20512102	CF, 1K OHM, 1/6W, J
R139	20512101	CF, 100 OHM, 1/6W, J
R140	20512473	CF, 47K OHM, 1/6W, J
R141	20512103	CF, 10K OHM, 1/6W, J
R201	20512101	CF, 100 OHM, 1/6W, J
R202	20512473	CF, 47K OHM, 1/6W, J U.K
R202	20512683	CF, 68K OHM, 1/6W, J EUROPE
R203	20512473	CF, 47K OHM, 1/6W, J U.K
R203	20512683	CF, 68K OHM, 1/6W, J EUROPE
R206	20512102	CF, 1K OHM, 1/6W, J
R207	22658947	VARIABLE, SEMI FIXED, 100K-B
R208	20512472	CF, 4.7K OHM, 1/6W, J
R209	20512472	CF, 4.7K OHM, 1/6W, J
R210	20512472	CF, 4.7K OHM, 1/6W, J
R211	20512472	CF, 4.7K OHM, 1/6W, J
R212	20512102	CF, 1K OHM, 1/6W, J
R213	20512102	CF, 1K OHM, 1/6W, J
R214	20512472	CF, 4.7K OHM, 1/6W, J
R215	20512153	CF, 15K OHM, 1/6W, J ST-3537
R216	20512153	CF, 15K OHM, 1/6W, J ST-3537
R217	20512473	CF, 47K OHM, 1/6W, J ST-3537
R218	20512473	CF, 47K OHM, 1/6W, J ST-3537
R219	20512473	CF, 47K OHM, 1/6W, J
R220	20512473	CF, 47K OHM, 1/6W, J ST-3537
R781	20512103	CF, 10K OHM, 1/6W, J
R782	20512103	CF, 10K OHM, 1/6W, J
R783	20512221	CF, 220 OHM, 1/6W, J
R784	20512103	CF, 10K OHM, 1/6W, J
R785	20512473	CF, 47K OHM, 1/6W, J
R786	20512473	CF, 47K OHM, 1/6W, J
R787	20512222	CF, 2.2K OHM, 1/6W, J
R788	20512222	CF, 2.2K OHM, 1/6W, J
R790	20512154	CF, 150K OHM, 1/6W, J
R791	20512332	CF, 3.3K OHM, 1/6W, J
R792	20512104	CF, 100K OHM, 1/6W, J
R793	20512102	CF, 1K OHM, 1/6W, J
R794	20512221	CF, 220 OHM, 1/6W, J
R795	20512104	CF, 100K OHM, 1/6W, J
R796	20512471	CF, 470 OHM, 1/6W, J
R797	20512332	CF, 3.3K OHM, 1/6W, J
R798	20512103	CF, 10K OHM, 1/6W, J
R901	20512473	CF, 47K OHM, 1/6W, J
R902	20512473	CF, 47K OHM, 1/6W, J
R903	20512104	CF, 100K OHM, 1/6W, J
R904	20512104	CF, 100K OHM, 1/6W, J
R905	20516270	CF, 39 OHM, 1/2W, J ST-3537
R906	20512221	CF, 220 OHM, 1/6W, J ST-3537
R907	20512103	CF, 10K OHM, 1/6W, J
R908	20512822	CF, 8.2K OHM, 1/6W, J
R909	20512103	CF, 10K OHM, 1/6W, J
R911	20512103	CF, 10K OHM, 1/6W, J
R912	20512223	CF, 22K OHM, 1/6W, J
R915	20512104	CF, 100K OHM, 1/6W, J

ACCESSORIES

AC01	22908518	OWNER"S MANUAL (ST-3547) EUROPE
AC01	22908519	OWNER"S MANUAL (ST-3547) U.K
AC01	22908528	OWNER"S MANUAL ST-3537
AC02	22197084	CONNECTOR CORD ST-3537
AC02	22197154	CONNECTOR CORD ST-3547